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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,727	07/30/2004	Masuhiko Natsuhara	039.0047	4726

29453 7590 11/09/2007  
Judge Patent Associates  
Dojima Building, 5th Floor  
6-8 Nishitemma 2-Chome, Kita-ku  
Osaka-Shi, 530-0047  
JAPAN

EXAMINER
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CHANDRA, SATISH

ART UNIT	PAPER NUMBER
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1792

MAIL DATE	DELIVERY MODE
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11/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/710,727

**Applicant(s)**

NATSUHARA ET AL.

**Examiner**

Satish Chandra

**Art Unit**

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 0207.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 - 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 0204 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/07.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/18/2007 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ushigoe et al (JP 05-009740).**

**Ushigoe et al disclose:**

**Regarding claim 1,**

A ceramic heater block 1 (Fig 1) comprising a conductive heater (electro conductive element) 4; and two rod-like seamless electrodes 8A and 8B for supplying electricity to the heating elements 4 through terminals 5A and 5B wherein electrodes are connected to outside the processing chamber through lead wire 9.

**Regarding claim 2**, seamless electrodes 8A and 8B (Figs 1, 2, only 8B shown in Fig 2) are enclosed in a tubular pieces 11A and 11B (cylindrical object).

**Regarding claims 5 and 6**, a semiconductor wafer-heating device comprising a susceptor 2 (wafer heating surface, Fig 8) located in a processing chamber.

**Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Pollock et al (US 6,082,297).**

**Pollock et al disclose:**

**Regarding claim 1,**

A ceramic heater block 75 (Fig 4) comprising a conductive heater (electro conductive element) 76; and two seamless electrodes 79 for supplying electricity to the heating elements 76 through terminals wherein electrodes are connected to outside the processing chamber through a cable 80 and end connector 81.

**Regarding claim 2**, seamless electrodes 79 (Fig 4) are enclosed in a tubular pieces 80 (cylindrical object).

**Regarding claims 5 and 6**, a semiconductor wafer-heating device comprising a susceptor 74 (wafer heating surface, Fig 4) located in a processing chamber.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 3, 4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushigoe et al (JP 05-009740) in view of Pollock et al (US 6,082,297).**

**Ushigoe et al were discussed above.**

**Ushigoe et al differ** from the present invention in that Ushigoe et al does not teach introducing an inert gas into the interior of the tubular piece.

**Pollock et al disclose:**

**Regarding claim 3 and 4**, providing an inert gas (conductive gas such as helium) within the encasement (susceptor) 75 (Fig 4) wherein the heater (electro - conductive element) 74 includes an inner resistive element 76 and the electrical lead-out wires (electrodes) 79 connected to the element 76 at one end and extend to the end connector 81 (Column 6, lines 34 –43). The inert gas is supplied to all the elements in the encasement 75 including electrodes.

**Regarding claims 7 and 8**, a susceptor 75 (Fig 4) is located in a processing chamber.

Therefore it would have been obvious to one of ordinary skill at the time of invention to provide an inert gas in the housing of Ushigoe et al as taught by Pollock et al.

The motivation is to prevent oxidation of the heating element and improve thermal conductance as taught by Pollock et al.

***Response to Arguments***

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Applicant's arguments filed 9/18/2007 have been fully considered but they are not persuasive.

Regarding the arguments:

Claims 1, 2, 5 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Japanese Unexamined Pat. App. Pub. No. JP-05-009740 to Ushigoe et al.

In turn, claims 1,2, 5 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 6,082,297 to Pollock et al.

These separate rejections will be addressed concurrently.

On page 4 of the present action, the Office quotes verbatim Applicants' remarks made in reply to the previous action. After quoting the arguments regarding Ushigoe et al. and Pollock et al., the Office then notes that regarding Ushigoe et al., "The claimed language does not support [Applicants'] statement" that Applicants' claimed electrodes are made seamless in order to enhance the electrodes' durability.

Claim 1 has been amended to recite that "said electrode ha[s] no joints or seams." Accordingly, it is respectfully submitted that claim 1 now does support Applicants' previous arguments distinguishing the claims over the cited prior art of record.

Again, Ushigoe et al. in paragraph [0015] states that the electrode elements 8A and 8B are connected to clumplike terminals 5A and 5B, which means Ushigoe et al. adopts a structure in which there are joints or seams.

While it may appear from the schematic representation that is Fig. 5 of Pollock et al. that the electrode connection area is seamless, regarding the Fig. 5 configuration, Pollock et al. is silent as to joints or seams, merely stating, in column 8, lines 21-23, "Electrical lead-outs 116 connect directly from the heating element 114 through the conduit 130 and to external drive electronics 124.

The Examiner disagrees because of the following reasons:

Regarding the Ushigoe et al reference: Ushigoe et al disclose a seamless electrode 8B, which can be seen in Fig 2. The ends of the electrode 8B are attached just like the joints between 3 and 1 (Fig 3) in the applicant's invention.

Regarding the Pollock et al reference: Fig 4 shows that electrodes 79 have no joints. If there were joints 46, they are being shown in Prior Art, Fig 2.

Therefore we are maintaining our rejection.

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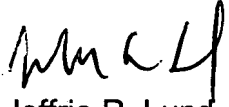
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satish Chandra whose telephone number is 571-272-3769. The examiner can normally be reached on 8 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, primary examiner Jeffrie R. Lund can be reached on 571-272-1437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Satish Chandra

  
Jeffrie R. Lund  
Primary Examiner

SC  
10/24/2007